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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

GERD ALTMAYER ET AL.

Serial No.: 09/446,523

Filed: December 28, 1999

For: FILTER ELEMENT WITH PLASTIC
FILTER CASING



PATENT

Group Art Unit:

Examiner:

5002

SUBMISSION OF ENGLISH PRELIMINARY EXAMINATION REPORT

Commissioner for Patents
Washington, D.C. 20231

Sir:

Submitted herewith is an English language Preliminary Examination Report for the
above-identified application.

Respectfully submitted,

Mark S. Bicks
Reg. No. 28,770

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Dated: Dec 6, 2000

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NOTIFICATION OF TRANSMITTAL
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OF THE INTERNATIONAL PRELIMINARY
EXAMINATION REPORT

(PCT Rule 72.2)

From the INTERNATIONAL BUREAU

To:

Termin:

Eing.: 22 MRZ. 2000

BARTELS UND PARTNER
 Lange Strasse 51
 D-70174 Stuttgart
 ALLEMAGNE

| | |
|--|---|
| Date of mailing (day/month/year) 08 March 2000 (08.03.00) | IMPORTANT NOTIFICATION |
| Applicant's or agent's file reference 40cdh/228370/PCT | |
| International application No. PCT/EP97/04630 | International filing date (day/month/year) 25 August 1997 (25.08.97) |
| Applicant HYDAC FILTERTECHNIK GMBH et al | |

1. Transmittal of the translation to the applicant.

The International Bureau transmits herewith a copy of the English translation made by the International Bureau of the international preliminary examination report established by the International Preliminary Examining Authority.

2. Transmittal of the copy of the translation to the elected Offices.

The International Bureau notifies the applicant that copies of that translation have been transmitted to the following elected Offices requiring such translation:

JP,US

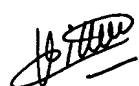
The following elected Offices, having waived the requirement for such a transmittal at this time, will receive copies of that translation from the International Bureau only upon their request:

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3. Reminder regarding translation into (one of) the official language(s) of the elected Office(s).

The applicant is reminded that, where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report.

It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned (Rule 74.1). See Volume II of the PCT Applicant's Guide for further details.

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| The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No. (41-22) 740.14.35 | Authorized officer C. Villet  Telephone No. (41-22) 338.83.38 |
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Translation

PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

| | | |
|---|---|--|
| Applicant's or agent's file reference 40cdh/228370/PCT | FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416) | |
| International application No. PCT/EP97/04630 | International filing date (day/month/year) 25 August 1997 (25.08.1997) | Priority date (day/month/year) 19.12.2001 |
| International Patent Classification (IPC) or national classification and IPC B01D46/24 | | |
| Applicant HYDAC FILTERTECHNIK GMBH | | |

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.
☒ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 6 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

| | |
|---|--|
| Date of submission of the demand 05 August 1998 (05.08.1998) | Date of completion of this report 13 August 1999 (13.08.1999) |
| Name and mailing address of the IPEA/EP European Patent Office D-80298 Munich, Germany Facsimile No. 49-89-2399-4465 | Authorized officer Telephone No. 49-89-2399-0 |

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/EP97/04630

I. Basis of the report

1. This report has been drawn on the basis of *(Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.)*:

- ☐ the international application as originally filed.
- ☒ the description, pages 1, 4-7, as originally filed,
 pages _____, filed with the demand,
 pages 2, 2a-2b, 3, filed with the letter of 26 May 1999 (26.05.1999),
 pages _____, filed with the letter of _____
- ☒ the claims, Nos. _____, as originally filed,
 Nos. _____, as amended under Article 19,
 Nos. _____, filed with the demand,
 Nos. 1-7, filed with the letter of 26 May 1999 (26.05.1999),
 Nos. _____, filed with the letter of _____
- ☒ the drawings, sheets/fig 1/5-5/5, as originally filed,
 sheets/fig _____, filed with the demand,
 sheets/fig _____, filed with the letter of _____,
 sheets/fig _____, filed with the letter of _____

2. The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/fig _____

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

4. Additional observations, if necessary:

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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/EP 97/04630

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**1. Statement**

| | | | |
|-------------------------------|--------|-----|-----|
| Novelty (N) | Claims | 1-7 | YES |
| | Claims | | NO |
| Inventive step (IS) | Claims | 1-7 | YES |
| | Claims | | NO |
| Industrial applicability (IA) | Claims | 1-7 | YES |
| | Claims | | NO |

2. Citations and explanations

1. GB-A-2 007 992 (D1) concerns a filter insert with fluid-permeable inner support tube 3 surrounded by a filter mat 2 which is in turn enclosed in an outer perforated support jacket 4 that delimits a filter chamber and has two end covers 5, 6 on its end faces. The filter mat consists of glass fibre layers rolled up into a hollow cylinder. The facing, overlapping ends of the outer cylinder jacket 4 are interconnected by a layer of fusion adhesive 10 by shrinking an outer tube or stocking 7 made of a plastic fabric thereon by heat application. The support jacket 4 thus snugly encloses the filter mat composed of delicate glass fibre layers.

D1 does not mention the material of which the outer support or filter jacket 4 is made. Choosing plastics, however, should be a matter of discretion for a person skilled in the art.

2. GB-A-1 411 607 (D2) discloses a filter insert with an inner and/or outer perforated support tube and end covers on its end faces, each support tube being formed of a flat plastic blank of which the overlapping ends are bent towards one another and

welded together, forming a seam. A filter mat made of folded filter paper is inserted between the support tubes.

3. DE-A-195 38 185 (D3) concerns a filter insert with a perforated, cylindrical outer jacket made of a flat plastic material bent into a helical shape and of which the abutting edges 7 (see figures) are interconnected by a plastic sealing compound 8. A folded filter is arranged between a support body and the outer jacket.

4. Proceeding from a filter insert having the features of the preamble of present Claim 1, the technical problem addressed by the present application is to provide a filter insert that is cheap to produce, can be more easily recycled in its entirety and resists alternating stresses during filtering.

D1 does not describe a filter with a folded filter mat. On the contrary, it mentions a snug fit of the filter mat. D2 concerns a folded filter mat, but that known filter insert does not ensure a tolerance-free and secure support of said mat between the support cylinders. None of the documents D1, D2 and D3 - and this also applies to the remaining prior art searched until now - suggests that the folded filter mat slipped onto the inner support tube should have a greater outer diameter than the inner diameter of the outer filter jacket. Consequently, the second characterising feature, namely the conical shape of the filter mat, meant to make it easier to insert and hence easier to produce, cannot be found in said prior art either. In retrospect, it is clear to a person skilled in

the art that the characterising features achieve a simpler and more secure support of the folded filter mat, which can thus better resist alternating stresses during operation. However, nothing in the prior art prompts him, nor is it obvious, to design a filter insert according to the preamble of Claim 1 with the characterising features.

The subject matter of the amended Claim 1 is therefore not only novel (PCT Article 33(2)) but also appears to involve the inventive step required by PCT Article 33(3).